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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/804,433

03/19/2004

Atsushi Nakajima

KOY-29

7159

20311 7590 03/27/2007

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EXAMINER

TRAN, LY T

ART UNIT

PAPER NUMBER

2853

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/804,433

Applicant(s)

NAKAJIMA, ATSUSHI

Examiner

Ly T. TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3, -94, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al (US. 2003/0035037) in view of Hoisington et al (US 2003/0164866)

With respect to claims 1-4, 6 and 7-9, Mills discloses an apparatus and a method of an image recording comprising: a recording head of an ink jet system for jetting an ultraviolet curable ink on a recording medium to form an image (Abstract); and an irradiation device for radiating an ultraviolet ray to the ink placed on the recording medium to cure and fix the ink (Column 3: [0050]), a recording type is a serial print type in which the recording head of the ink jet system and the irradiation device for radiating an ultraviolet ray are mounted on a same carriage (Column 1:[0011]) and a recording type is a line print type (Column 1: [0010]) and four or more recording heads for forming an image by jetting four colors of inks of yellow, magenta, cyan, and black (Column 3: [0050])

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However, Mills fails to teach an apparatus has a plurality of recording modes with different image recording speeds for changing a maximum amount of ink to be jetted corresponding to the plurality of recording modes, drop size and the maximum amount of ink to be jetted is decreased for a recording mode with a high image recording speed, and the maximum amount of ink to be jetted is increased for a recording mode with a low image recording speed, in the plurality of recording modes and generating almost no gap on the recording medium.

Hoisington teaches an apparatus has a plurality of recording modes (column 3[0035]) with different image recording speeds for changing a maximum amount of ink to be jetted corresponding to the plurality of recording modes in the plurality of recording modes, the maximum amount of ink to be jetted is decreased for a recording mode with a high image recording speed, and the maximum amount of ink to be jetted is increased for a recording mode with a low image recording speed, in the plurality of recording modes and generating almost no gap on the recording medium. (Column 3: [0035])

Hoisington teaches drop variability volume is accommodated jet control is provided. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have determined the maximum amount of ink to be jet by ink droplet size and the total amount of ink to be jetted is  $5 \text{ g/m}^2$  or more, since applicant has not discloses that the total amount of ink to be jetted is  $5 \text{ g/m}^2$  or more solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any amount of ink. .

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2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al (US. 2003/0035037) in view of Hoisington et al (US 2003/0164866) as applied to claim 1 above, further in view of Hintermann (US 2004/0189770)

The combination of Mills and Hoisington fails to teach the recording type is a flat bed print type.

Hintermann teach the recording type is a flat bed print type (Column1: [0003]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made as modify Mills to use a flat bed print type as taught by Hintermann. The motivation of doing is to easily print material that cannot be rolled such as glass.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T. TRAN whose telephone number is 571-272-2155. The examiner can normally be reached on M-Th:6:30 AM-3:00PM or IFP, Friday: work at home.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LT

March 22, 2007



**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**